UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAMES ROBERT ADAIR, JR., WILLIAM B. BOWER,
EDWARD JOSEPH CIGALLIO
and RICHARD VINCENT DOUGHERTY

Appeal No. 2006-1862
Application No. 09/954,443

HEARD: JULY 13, 2006

Before FRANKFORT, OWENS and CRAWFORD, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal is from a rejection of claims 9, 12-18 and 21-26. Claims 1-8, 10, 11, 19 and 20 have been canceled.

THE INVENTION

The appellants claim a system and method for making one to five ounce portion control sized packages of flowable liquid-containing condiments wherein longitudinal heat tubes are used in

sealing the packages. Claim 9 is illustrative:

> 9. A system for making portion control sized packaged flowable liquid-containing condiments in a portion size in the range from 1 to 5 ounces comprising:
>
> a heat sealable material feeder;
>
> a flowable material feeder for feeding a flowable liquid-containing condiment; and
>
> a form/fill/seal apparatus structured and arranged for receiving the heat sealable material, forming a portion control sized package with the heat sealable material, filling the portion control sized package with the flowable liquid-containing condiment in a portion size in the range from 1 to 5 ounces, and sealing the portion control sized package so that the portion control sized package has a portion size in the range from 1 to 5 ounces, the form/fill/seal apparatus including a heat seal die comprising:
>
> a first die member having a longitudinal axis and a die face;
>
> a second die member having a longitudinal axis and a die face;
>
> a first heating element engaged with the first die member for heating the first die member;
>
> a second heating element engaged with the second die member for heating the second die member;
>
> a first longitudinal heat tube tightly disposed in a first longitudinal bore in the first die member between the first heating element and the die face of the first die member for maintaining a substantially uniform heat seal temperature along the die face of the first die member; and
>
> a second longitudinal heat tube tightly disposed in a first longitudinal bore in the second die member between the second heating element and the die face of the second die member for maintaining a substantially uniform heat seal temperature along the die face of the second die member.

THE REFERENCES

Eisenstadt	3,228,170	Jan. 11, 1966
Nakamura et al. (Nakamura)	6,301,859	Oct. 16, 2001 (filed Apr. 23, 1999)

THE REJECTION

Claims 9, 12-18 and 21-26 stand rejected under 35 U.S.C. § 103 as being unpatentable over Eisenstadt in view of Nakamura.

OPINION

We reverse the aforementioned rejection. We need to address only the independent claims, i.e., claims 9 and 18. Claim 9 claims a system comprising a flowable material feeder for feeding a flowable liquid-containing condiment to a portion control sized package, and a form/fill/seal apparatus including a heat seal die comprising two longitudinal heat tubes. Claim 18 claims a method comprising feeding a flowable liquid-containing condiment to a form/fill/seal apparatus, and sealing a portion control sized package using a heat seal die comprising two longitudinal heat tubes.

Eisenstadt discloses "machinery for making small packages of liquids, semi-liquids, liquids of high viscosity such as mustard, syrup, etc." (col. 1, lines 10-12). The packages are sealed by pressing their edges between heating elements (48, 65, 66) (col. 2, line 47 - col. 3, line 40).

The only disclosure in Nakamura relied upon by the examiner is Nakamura's discussion of a prior art heat sealer for forming a sheet of synthetic resin into bags (answer, page 6). That prior art heat sealer uses heat pipes (26a, 26b) (col. 2, line 64) which correspond to the appellants' heat tubes. Nakamura discloses (col. 10, lines 1-20):

> [T]he heat pipes employed in the prior art transverse heat-sealing jaw are of a design wherein a wick is fitted to an inner peripheral surface of each heat pipes [sic] having its opposite ends closed and a working liquid is filled therein. This design utilizes the phase change of the working liquid which is vaporized when heated, but returns to a liquid phase when cooled in contact with a portion of the respective heat pipe where the temperature is low, so that heat can be quickly and efficiently transmitted in the lengthwise direction of the respective heat pipe. However, as a result of a series of experiments conducted by the inventors of the present invention, it has been found that the heat pipe has not sufficient heat conductive characteristic in a radial direction, and that the use of the heat conducting members having a high heat conductivity λ such as employed in the practice of the present invention has exhibited an excellent heat conductive characteristic in a radial direction and, also, a sufficient heat conductive characteristic in a lengthwise direction although somewhat lower than that exhibited by the heat pipes.

The appellants argue that the above disclosure by Nakamura is an express teaching that heat pipes should not be used in heat sealing dies because they do not distribute heat adequately in the radial direction (brief, page 8).

The examiner argues that "Nakamura, in this disclosure, simply emphasizes that the heat pipe is a better choice for heating the heat-sealing jaws in the lengthwise direction, but for the heating of the heat-sealing jaws in the radial direction, the heat conducting member (other than the heat pipe) such as the one discloses [sic] in the Nakamura present invention is more suitable" (answer, page 6).

The examiner has not provided evidence that the prior art heat pipes disclosed by Nakamura would provide adequate heating of the heat-sealing jaws in the radial direction if the material being bagged contains a liquid. The exemplified articles bagged by those prior art heat pipes are potato chips, fruits, candies, vegetables, screws, nails and bolts (col. 1, lines 23-25), and Nakamura does not disclose that the prior art heat pipes are effective for bagging liquids. The only apparatus relied upon by the examiner for bagging liquids is that of Eisenstadt wherein the heating elements used to seal the bags appear to be electrically heated (as indicated by the wire attached to heating element 48 in figure 3a), solid heating elements.

We therefore conclude that the examiner has not carried the burden of establishing a prima facie case of obviousness of the appellants' claimed invention.

DECISION

The rejection of claims 9, 12-18 and 21-26 under 35 U.S.C. § 103 over Eisenstadt in view of Nakamura is reversed.

REVERSED

CHARLES E. FRANKFORT)
Administrative Patent Judge)
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) BOARD OF PATENT
) APPEALS
) AND
TERRY J. OWENS) INTERFERENCES
Administrative Patent Judge)
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MURRIEL E. CRAWFORD)
Administrative Patent Judge)

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